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## MALNUTRITION, THE SCHOOL'S PROBLEM

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That better nutrition of children is a problem which every community needs to face is now a generally accepted fact. Just what agency shall start the work and how and by whom it shall be carried on are points on which there is less general agreement. The work which began in dispensaries has spread to welfare stations, settlements, and schools, and is now being carried on by a variety of workers under the auspices of numerous public and private organizations, such as dispensaries, hospitals, the American Red Cross, the Extension Department of the United States Department of Agriculture, child-welfare organizations, state health departments, and others. Since the beginning of the movement there has been a growing conviction on the part of those engaged in it that the public school must take over the problem before full success can be assured. The purposes of this article, therefore, are (1) to present the reasons why it is believed that the school is the logical agency to do the nutrition work; (2) to show wherein the school commonly fails to do its part in furthering health; and (3) to outline general plans of procedure for schools desirous of undertaking the nutrition task.

There are three chief reasons—to attack the first problem—for assigning the nutrition work to the public school. The simplest and most obvious of these is that the school already has the children. The dispensary has them for an hour once a week or, less often, for a number of weeks; the attendance is voluntary and often very irregular; and the children most interested, rather than those most in need of care, are the ones who attend. Moreover, it is only the children in poorest condition who are usually reached, for parents do not as a rule take their children to a doctor or to a dispensary until they consider them actually ill. The school, on the other hand, has all the children (save those under school age,

the method of reaching whom cannot be considered here), and it has them day after day for eight years or longer. It can reach not only the children most below par, but every child, and can eventually hope by prevention to bring the whole group into the ranks of the well nourished.

A survey of the causes of malnutrition reveals the strongest reason of all for assigning the task to the school. Briefly stated, too little food, the wrong kind of food, too little sleep, too much or too vigorous exercise, and the presence of physical defects—like adenoids, diseased tonsils, and bad teeth—may be said to be the chief actual causes of malnutrition. Back of these specific causes, however, are the underlying ones of poverty, ignorance, and lack of home control, the most prevalent without doubt being ignorance. Children have inadequate diet and insufficient sleep, in the large majority of cases, not because of poverty but because they and their parents are ignorant with regard to the food, sleep, and other health requirements of children. Adenoids, diseased tonsils, and other physical defects are likewise allowed to go without attention largely for the same reason.

The first requisite for the improvement of the physical condition of children, then, is education; and education, it will be generally admitted, is the school's job. "Book learning" as the sole aim of education was long ago discarded, and the broader aim of teaching children "how to live completely" has, theoretically at least, taken its place. Surely, the first step in a program of complete living should be education to produce a sound body.

Still a third reason for believing that the school is the agency to carry on health education is that the school is the one best equipped to do the work. It has already been said that the children need education in health habits and in the choice of food. Here is the school with a corps of trained teachers, skilled in the art of presenting knowledge; here are the physical training department, the home economics department, the physiology and hygiene classes, and the school lunch; and, most important of all, here are the children themselves for five hours of the day, during which the school can, if it will, make sure that the children actually live what they are taught.

Since the school, then, has all the children and with them the opportunity to do preventive work; since the chief cause of malnutrition is ignorance and removal of ignorance is primarily the school's job; and since the school is the agency best equipped to give health instruction, the conclusion that the responsibility for the health problem rests on the public school seems fully warranted. It seems, indeed, that there must be something radically wrong with a system which compels children to go across town to a dispensary to attend a nutrition class on Saturday morning or after school, in order that they may be taught by doctors and dietitians the simple lessons of health which should be taught in school by their own teachers during regular school hours.

But, it may well be argued, the school has had these same opportunities for years, and yet the schools are full of malnourished children. What does it mean? It means, we believe, that the school has "fallen down on its job." There is much talk in these days about standardized tests to determine the effectiveness of teaching in arithmetic, grammar, and spelling. A study of the physical condition of the children, together with an investigation of their method of living, furnishes the best test of the success of the school's health instruction.

To answer fairly and fully the question as to what the schools themselves are doing in the way of nutrition and general health work is, of course, impossible. Some conditions actually observed and which, it is believed, can be found in a majority of the schools of the country may be offered in explanation of the school's failure in its duty to health.

Sleep is one of the most imperative health needs of a growing child. To urge and to insist upon a regular early bedtime for every child should be the duty of every school. What, then, should be said of a school which gives an entertainment, using all of the children from the first grade to the eighth, beginning at 8:30 P.M. and lasting until 11:00 P.M. or later? That school has not only violated one of the fundamental laws of child health, but—what is even more serious—has set its seal of approval on late hours for children.

In its hygiene classes the school teaches the necessity of breathing fresh air at all times; and yet, because of lack of attention to

ventilation, the same school may be compelling its children to breathe foul air for five hours of the day. Keeping pupils in at recess—not yet an obsolete punishment—makes a respite from the bad air likewise impossible for many a child.

The hygiene teaching and physiology teaching are doubtless much improved over the old-time methods. In the schools of at least one city, however, physiology lessons still consist largely of a recitation of the names of the bones in the body and the definition of such terms as corpuscle and esophagus. Even in schools where these subjects are well taught the education still too often stops at knowledge. There is no follow-up work to insure the doing of the thing taught.

It is to the home economics classes one turns with the expectation of finding children being trained in the wise choice of food and the formation of good food habits. Unfortunately, however, the work in far too many schools is little more than the mere mechanics of cooking and sewing. Moreover, the work is usually given only to the girls of one or two grades, while the boys are omitted entirely. And yet, boys as well as girls will have to select their own foods for at least a part of their lives.

The school lunch has been looked to for great accomplishments in the improvement of nutrition, and it has, indeed, accomplished much. There are, nevertheless, schools which serve excellent school lunches where the children are eating just as inadequate and unsuitable lunches as if there were no better available, because of the lack of supervision in the choice of food. Such schools are overlooking their best opportunity to teach right food habits and to insure that one of the day's meals, at least, is what it should be.

The physical training department is the one whose chief purpose is the improvement of the health and physical condition of the children; and no doubt there are many schools where children are being helped to become physically fit through this department. There are, unfortunately, plenty of others of which this is not true. For example, a physical training teacher, in her anxiety to present a finished performance on field day, allowed the boys to overtrain at athletics, and the girls to practice far beyond their strength in order to perfect dances and drills. Thus, the department which

should have been the most active in health upbuilding became instead an active agent in its destruction.

The illustrations need not be multiplied. Enough have been offered to show that the school, in spite of the fact that it has numerous health agencies, not only fails to correct or to prevent malnutrition, but is often actually responsible for the conditions that cause it.

To the discredit of the school it must, indeed, be reported that persons conducting nutrition classes in dispensaries and elsewhere have not infrequently found certain phases of school routine or school requirements the chief obstacle to effective work with the pupils of these classes. In one class composed largely of girls ten to thirteen years of age, no causes could be found for their condition save those of worry over school work, late bedtime, and too little time for outdoor play. In other instances progress has been impossible because the school has refused to excuse from baseball or football children who were in such condition that they ought never to have been allowed to take any form of athletics, much less these strenuous ones.

The only hope for ultimate success, therefore, seems to be for the school itself to shoulder the burden. A beginning, in fact, has already been made in the schools. Dr. Emerson, the pioneer in the nutrition-class work, has conducted classes in selected schools, and various public and private agencies have likewise gone to the schools and started the work. This transferring of the nutrition class from the dispensary and settlement to the school is a step in the right direction. The situation is still far from the ideal, for the work is being done, for the most part, by agencies outside the schools, often with half-hearted assistance or none at all from the teachers, while the regular activities in many cases are as far from furthering the health aim as formerly. Moreover, it is only the children 7 per cent or more underweight who are, as a rule, being reached. Some schools, to be sure, employ a nutrition teacher or supervisor to conduct the nutrition classes—a further step in the way of improvement. Yet, even these nutrition teachers—so far as the writer has been able to learn—are working largely or entirely with the underweights, having little support from the

school as a whole and no power to demand health requirements necessary to progress, such as exemption from strenuous athletics and freedom from home lessons. Such nutrition work, in other words, is still largely a one-person job.

It is certain that real success can be attained only when, instead of relying upon outside agencies or one nutrition teacher to carry on nutrition classes for the most deficient pupils, the school itself accepts the problem as its own, organizes its staff and all its activities in accord with health standards, and attacks the problem with the full force of all its powers and with the aim of reaching every child. Let it accept, if it will, the assistance of outside agencies until such time as it no longer needs help. Or, better still, let it employ a well-trained nutrition supervisor to direct the work. But let it do either only in full realization that the burden of the task must rest on the whole school.

What, then, it remains to inquire, can the school do and how should it proceed? The first step, if there is to be the fullest success, is obviously to enlist the interest and co-operation of all persons coming in contact with the children from the janitor to the superintendent, including especially the teachers of home economics and physical training, the lunch supervisor, and, if possible, the parents. Let them together plan a health campaign as definitely as they would a thrift-stamp drive. If it is possible to secure the services of a specialist to start the work, it may move more easily and effectively; but it is possible for the school staff to carry it out alone.

A logical beginning for a school could well be to make a nutrition and health survey to find the existing conditions. Let it first look into its own activities, its practices, and its teachings, to discover to what extent these are subject to criticism. Let it ask itself if school entertainments are given at night, if children are kept in at recess, if there are ample toilet facilities, if the classrooms are well ventilated, if home lessons are required, and, if so, in what grades. Let it learn in what grades physiology and hygiene are taught, the number of hours per week given to them, upon what the emphasis is placed, and what, if anything, is being done to insure that the teaching is carried over into the children's

living. Let it inquire what percentage of its students are being reached through the home economics classes and whether the food habits of these students are being improved thereby. Let it learn whether the physical training is conducive to health improvement and development for all students or whether its energies are devoted to developing a few athletes and making a good exhibition on special occasions. If there is a school lunchroom, it should be visited and the following questions answered: Are there foods served which children should not have, such as coffee, tea, and rich pastry? Are the children given any instruction regarding the choice of a lunch before coming to the lunchroom? Are they restricted or guided in their selection of food? Let the one best capable of judging watch the trays as the children pass and note the following: How many trays contain milk? How many contain a vegetable? How many have lunches consisting largely of simple, wholesome foods? How many have lunches consisting largely of sweets? How many have lunches which appear approximately adequate in calories? How many are plainly inadequate in amount?

If the findings of such a study are summarized and the results made available to all of the staff, the effect can scarcely fail to be wholesome, even if no further study is made.

A second essential of the self-survey is to investigate essential health factors in the daily living of all the children. A detailed study of hygiene and diet needs the services of a specialist and requires much time and effort. Nevertheless, a school will find much to enlighten it and to furnish suggestions for future work by a few simple inquiries into the children's habits regarding the basic health factors. Mimeographed sheets containing suitable questions should be prepared, and each teacher should endeavor to secure honest and complete answers. In the upper grades this can be done by allowing the children to answer the questions themselves; in the lower grades, by putting the questions to the children individually and supplementing the information gained by interviews with mothers or older brothers and sisters.

This questionnaire should be so formulated as to discover regarding each child the usual hour of going to bed; the frequency



of attending night movies; whether windows are open at night; the number of hours spent out of doors on school days; whether the child owns a toothbrush and, if so, how often he uses it; if the child eats breakfast before coming to school and, if so, what he has; whether he likes milk, and the amount he has daily; whether he drinks coffee or tea, and how much; the vegetables he likes and eats; and the amount of candy and sweets eaten between meals.

The answers to these questions will doubtless not be entirely reliable, but if secured by teachers sincerely interested in obtaining full and truthful replies, they will be worth tabulating as an indication of the work which needs to be done.

A third step in the self-survey is to determine the physical condition of the children themselves. The school should weigh and measure all the children and compare the weight of each child with the average for his height. According to present standards, all children falling 7 per cent or more below the average are considered undernourished. This does not mean that these are the only ones to be considered, for all who are found by the health survey to be following a faulty health program should have instruction, regardless of their present physical condition; but the underweights are perhaps in more urgent need and will be apt to require more intensive treatment.

A medical examination of all the children is needed to complete the study. This is mentioned last, not because its importance is not fully recognized, but because the ordinary school is still unable to provide for it.

The first two parts of the self-survey—the study of the health aspect of school activities and the investigation of the children's habits of life—can both be carried out by the school with no outside assistance and no expenditure of money. A health campaign based on these findings should be begun, even if a scale and a physician are not obtainable, for it may be safely stated that faulty diet and bad hygiene will be found to be largely responsible for the condition which the weighing and the examination will reveal. To be sure, there will be a goodly number of children who will fail to respond to the improved hygiene as they should, because of the hindrance of decayed teeth, diseased tonsils, adenoids, or other

physical defects. The health education will be good for them, nevertheless, and it may be all that the majority of the children need in order to bring them into good physical condition. No school, therefore, should hesitate to make a beginning even though it has no funds and no physician.

There are few schools, however, which cannot obtain money for a scale, at least; and many can secure nose, throat, and teeth examinations for the underweight group, if nothing more is possible. Furthermore, sufficient interest frequently develops as the work proceeds to make many things possible after a time which were not at the beginning. Medical care for school children may quite possibly be one of the outcomes of the undertaking.

Having made the self-survey, the next step is, of course, to correct the conditions found. Unless the school is an unusual one, the tabulations will show that the majority have a late bedtime; that many sleep with closed windows; that coffee and tea are in common use; that milk and vegetables are generally disliked and little used; that the habit of coming to school without breakfast or with practically none is a common one; and that many pupils eat candy, peanuts, etc., between meals. If the children have been weighed, it is safe to predict that from 25 to 50 per cent of them will be 7 per cent or more underweight; and if they have had medical examinations, a large number of physical defects needing urgent attention will be discovered.

Obviously, the first thing for the school to do is to set its own house in order, at least to the extent of discontinuing those practices which violate the laws of health. It should, in addition, begin such reorganization of courses or shifting of emphasis as may be needed to make the school subjects—particularly those with health content—contribute their share to health education.

If possible, tonsils and adenoids should be removed when necessary, teeth should be cared for, and other medical care secured for those who need it. Removing tonsils and adenoids is not always an easy matter, however. There are parents—fathers in particular—who will not have their children "operated on"; others are certain the children will outgrow them; and still others believe that if the Lord caused the tonsils and adenoids to grow he

meant them for some good purpose and steadfastly refuse to have them out. It often means a long educational siege to get them removed, and even this may be ineffectual.

A campaign of health education based on the findings of the self-survey should be begun at once. The success of this depends on the enthusiasm and co-operation of the teachers. When superintendent, principal, and teachers get interested in a project they can readily arouse the interest of the whole school. The children can be aroused to selling Liberty Bonds, thrift stamps, or tickets for a minstrel show. They can be made wildly enthusiastic over Roosevelt, self-government, adopting French orphans, buying milk for hungry babies, or planting trees on Arbor Day. If the school through its leaders, therefore, will but center its interest on the health campaign, it can set the children to working for it with as great interest and energy as they work for these other enterprises.

Let the school, then, launch a sleep drive, a milk drive, an anti-coffee campaign. Let it start a movement for better breakfasts, for "no sweets between meals," and for other reforms shown by the survey to be needed.

Weight charts should be made for the underweights and the spirit of competition aroused to see which shall be first to reach his normal weight. Let the school pit room against room, class against class, boys against girls; let it use the devices and rewards which have been found successful in other work. It is possible to get children to take as much pride in being the record room for **early** bedtime or for having no coffee drinking as for perfect attendance. One teacher succeeded in putting a whole roomful of children to bed regularly every night at eight by means of a brownie stamp. A chart of the children's names with squares for days, the stamp and pad, and about two minutes of time to call the roll and stamp a brownie for everyone who could answer "yes" were all it required.

It has been assumed in this plan that there will be a concentration of attention on the health movement for a period, it being taken for granted that the investigation will show urgent need of a general campaign. This can be more easily accomplished—as

has been repeatedly demonstrated by the success attending Red Cross drives, backyard drives, thrift-week campaigns, and the like—by centering the attention of everyone concerned on the matter and concentrating every effort for a short period toward the desired end. This is a good method of creating an interest in the health problem, but it must be said, in warning, that the work should not stop there. The nutrition and health problem is not one to be settled by one heroic effort for a few weeks, but by daily education, training, and practice in the art of healthful living. Along with plans for starting the health drive, therefore, should go plans for the establishment of a system of health education which shall be a stable part of the regular scheme and shall involve every child, every teacher, every subject, and every phase of school routine for the full period of the child's schooling.